

Setting Up the EntraPass Mirror Database and Redundant Server

The purpose of this document is to help EntraPass system installers and administrators define and install the Mirror Database and Redundant Server option which provides a safeguard against vital data loss and access control downtime by providing an alternate (redundant) data storage mechanism in case of Primary Server failure which may arise from power outage or computer crashes.

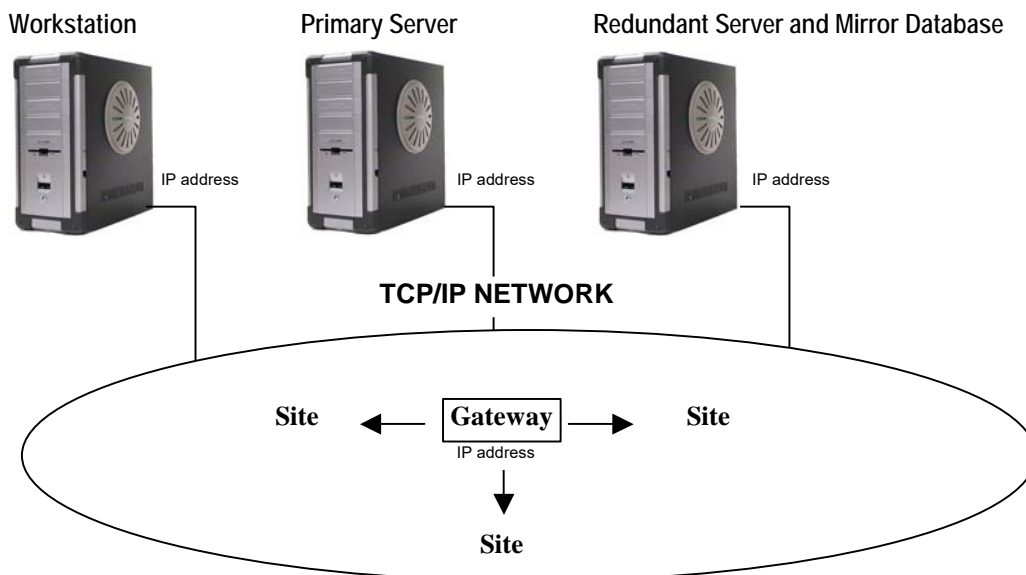
Requirements

- Installed EntraPass Corporate Edition or EntraPass Global Edition access control software
- Registration certificate for the EntraPass Mirror Database and Redundant Server option
- EntraPass installation CD
- Dedicated computer with CD drive, 100-BaseT network card configured with a static IP address (refer to the EntraPass User Reference manuals for minimum requirements)

Note: All computers used in this application must be equipped with hard disks formatted using the NTFS file system.

System architecture

In a typical EntraPass Corporate or EntraPass Global Edition setting, all logical components such as Workstations, Servers and Redundant Servers are installed on dedicated computers. Each computer is networked along with gateways and sites to form the entire access control system.



The Redundant Server monitors the communication between itself and the Primary Server. The Mirror Database is a real-time copy of the system database and Windows system registry entries.

When communication between the Redundant Server and the Primary Server fails, the Mirror Database automatically initiates the delay after which the Redundant Server is automatically started to replace the Primary Server.

Procedure Highlights

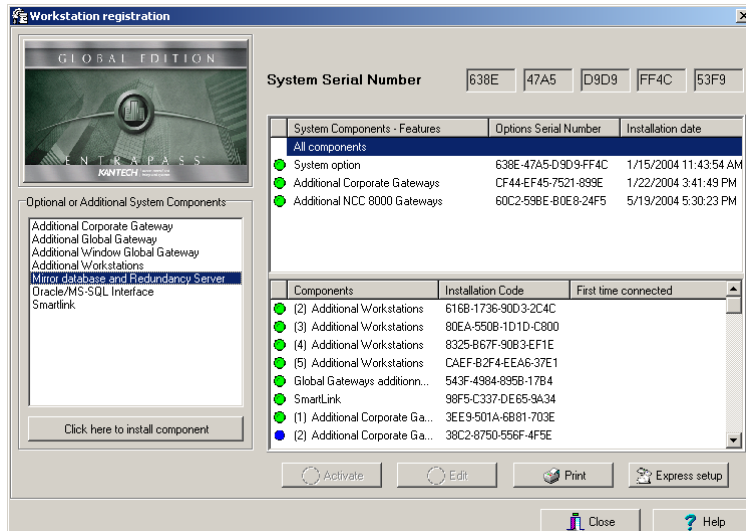
To set up a Mirror Database and Redundant Server, you must:

1. Register and activate the new option
2. Define the parameters of the new logical components in the EntraPass system
3. Install the Mirror Database and Redundant Server on a dedicated computer
4. Launch the software.

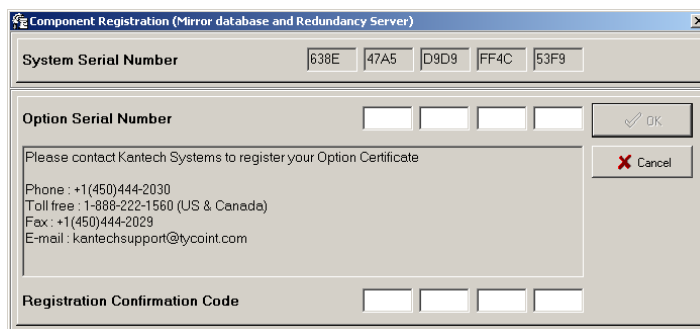
Step-by-Step Instructions

1. Registering and Activating the new Option

- 1.1. From the EntraPass Workstation or Server user interface, go to the **Options** tab and click the **Workstation Registration** button.

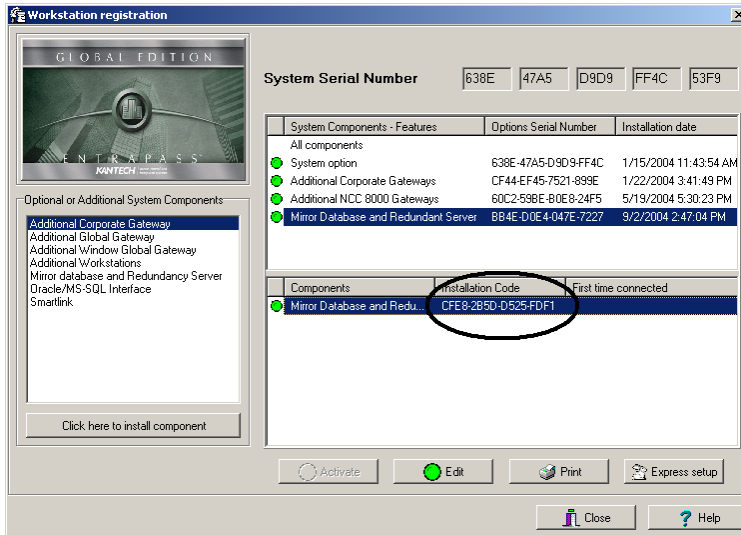


- 1.2. Select **Mirror Database and Redundant Server** from the left-hand pane, then click **Click here to install component** to bring up the component registration window.

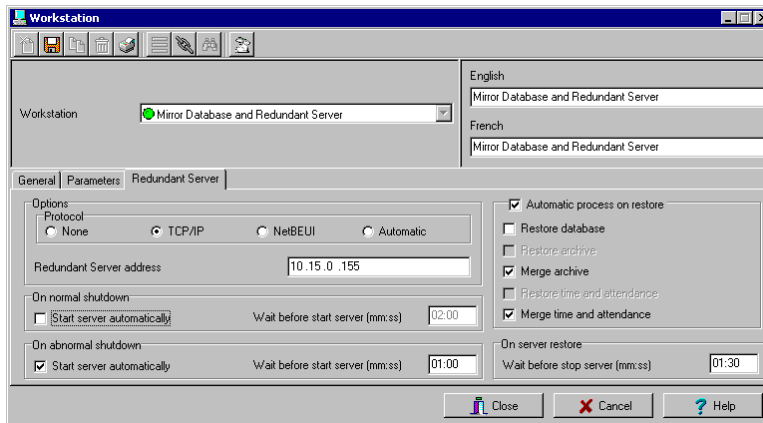


- 1.3. Type the **Option Serial Number** found on your option certificate then call Kantech Systems to obtain the registration confirmation code.

- 1.4. Enter the **Registration Confirmation Code** provided by Kantech then click **OK** to continue the activation process.



- 1.5. Back to the workstation registration window, notice the new option appearing in the bottom right-hand pane next to a blue dot indicator. Click **Activate** to enable the option. The blue dot will turn green to indicate that the Mirror Database and Redundant Server option is available for installation. Close the Workstation registration window.
2. **Define the parameters of the new logical components in the EntraPass system**
 - 2.1. Back to the EntraPass workstation user interface, go to the **Devices** → **Workstation** and browse the **Workstation** list, then select **Mirror Database and Redundant Server**. Leave all general settings unchanged for now and click the Redundant Server tab.

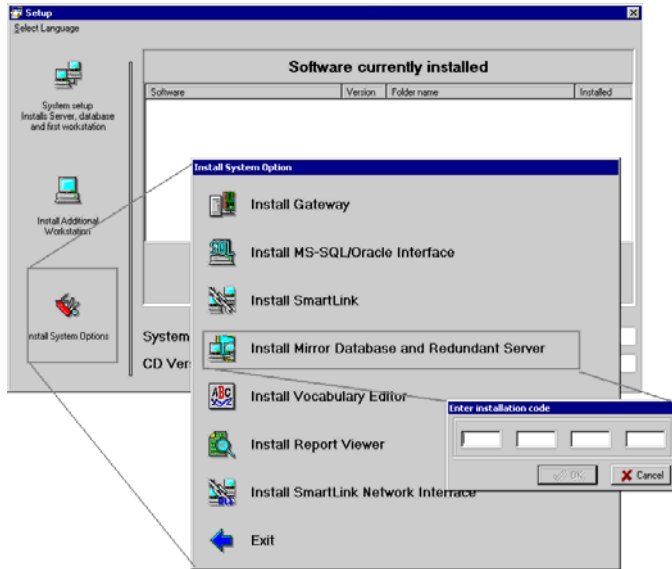


- 2.2. Under **Protocol** click **TCP/IP** and type a static IP address of the computer hosting the Redundant Server application. This IP address will be used by all workstations and gateways whenever the Primary Server goes offline.
- 2.3. Specify the options for starting the Redundant Server: this may be automatically **On a normal shutdown** (when an operator shuts down the EntraPass Server) or **On an abnormal shutdown**. The Mirror Database will start the Redundant Server when the delay indicated in the **Wait before start server** field has expired.
- 2.4. Make sure **Automatic process on restore** the option is checked so that the Mirror Database and Redundant Server automatically restarts the Primary Server when it returns to normal operation. If this option is not checked, you will need to restart the Primary Server manually.
- 2.5. In the **On server restore** section, specify the delay after which the Redundant Server will be stopped when the Primary Server returns to normal functionality. During this time, the Redundant Server will continue to prevail (maximum allowed: 59:59 minutes).

3. Install the Mirror Database and Redundant Server on a dedicated computer

Once the Mirror Database and Redundant Server option has been properly registered, activated and defined in the EntraPass system, you must install the software on a dedicated computer using the EntraPass CD. This process requires that the dedicated computer be connected to the network using the IP address assigned earlier in step 2.2.

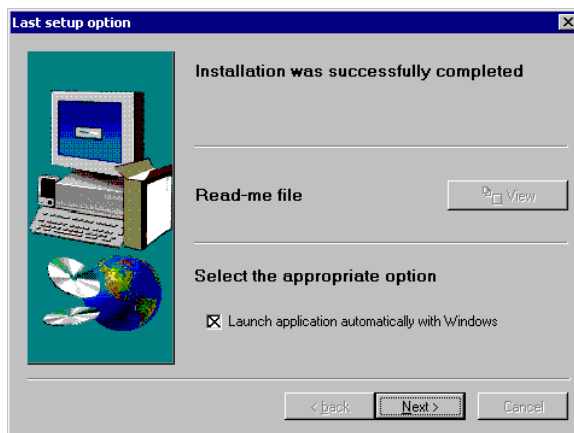
3.1. Run the EntraPass installation CD and wait for the first setup window to appear.



- 3.2. As shown above, click **Install System Options** to bring up the list of available options then select **Install Mirror Database and Redundant Server**.
- 3.3. When asked to enter the installation code, enter the option's installation code and click **OK** to allow the installation to continue.

Note: If you do not have this code at hand, return to the Workstation Registration window.

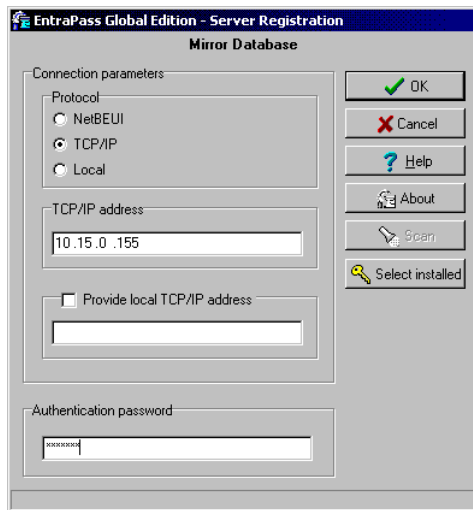
3.4. Near the end of the installation process, the following setup option appears.



- 3.5. Since the Redundant Server is running on a dedicated computer on which no other application should run, you should check **Launch Application Automatically with Windows**, then click **Next** to continue.
- 3.6. Once the installation is complete, restart the dedicated computer to enable the software.

4. Starting Up the Mirror Database and Redundant Server

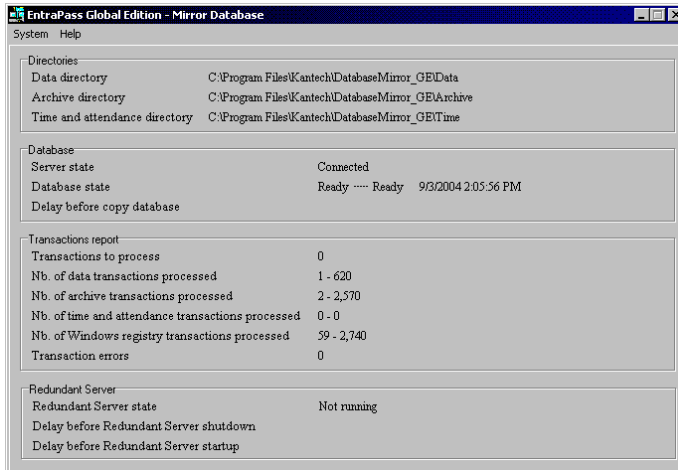
- 4.1. Go to the **Start** menu and select **Programs** → **EntraPass** (Corporate or Global Edition) → **Mirror Database and Redundant Server** → **Mirror Database and Redundant Server** to bring up the Server Registration window.



- 4.2. Use this window to set the parameters needed to communicate with the rest of the EntraPass system:
 - 4.2.1 Select TCP/IP as the protocol required to communicate with the rest of the EntraPass network.
 - 4.2.2 In the TCP/IP address field, type the IP address of the Primary EntraPass Server.
 - 4.2.3 Enter the EntraPass system's master password.
- 4.3. Click **OK**. At this point, if all parameters were entered correctly, the following confirmation message will be displayed.

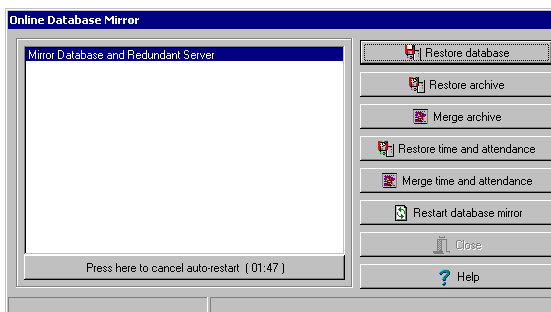


- 4.4. Click **OK** to launch the Mirror Database. After startup, the Mirror Database automatically connects to the Primary Server and copies the system database and archived files into the new Mirror Database for redundancy. At the end of the mirroring process, a status window appears. The Redundant Server is now ready to take over if the Primary Server fails due to a network or any other computer problem. You may therefore leave the Redundant Server unattended.



Principle of Operation

- The Mirror Database regularly polls the Primary Server. Any database modification or new archives recorded by the Primary Server is sent to the Mirror Database. If the Primary Server fails to respond, the Redundant Server is automatically launched. The Redundant Server supports all the features and functionality of the Primary Server.
- Once the Primary Server comes back online, the following window appears prompting database, archive and time and attendance report restoration from the Redundant Server.



- The Mirror Database and Redundant Server should be restarted after restoration. In doing so, the Redundant Server will once again copy all the database from the primary into the Mirror Database.
- If no action is taken during the 10 minutes that follow Primary Server restart, any change to the system database made by the Redundant Server will not be copied into the primary database and the Primary Server will be restarted automatically.